

#### ABSTRACT OF THE DISCLOSURE

A 99.99% pure indium feed is charged into a crucible and heated to 1250 °C by an upper heater in a vacuum atmosphere at  $1 \times 10^{-4}$  Torr, whereupon indium evaporates, condenses on the inner surfaces of an inner tube and drips to be recovered into a liquid reservoir in the lower part of a tubular member, whereas impurity elements having a lower vapor pressure than indium stay within the crucible. The recovered indium mass in the liquid reservoir is heated to 1100°C by a lower heater and the resulting vapors of impurity elements having a higher vapor pressure than indium pass through diffuser plates in an upper part of the tubular member to be discharged from the system, whereas the indium vapor recondenses upon contact with the diffuser plates and returns to the liquid reservoir, yielding 99.9999% pure indium, while preventing the loss of indium.